

IN THE CLAIMS:

Kindly amend the claims, without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, to read as follows:

PENDING CLAIMS:

1. (Previously Presented) A DNA vaccine comprising (i) a naked DNA containing and expressing *in vivo* a polynucleotide encoding an antigenic polypeptide; and (ii) at least one adjuvant which is a polymer of acrylic or methacrylic acid or a copolymers of maleic anhydride and alkenyl.
2. (Previously Presented) The vaccine according to Claim 1 wherein the adjuvant comprises a polymer of acrylic or methacrylic acid cross-linked with a polyalkenyl ether of a sugar or polyalcohol.
3. (Previously Presented) The vaccine according to Claim 2, wherein the polymer is cross-linked with an allyl sucrose or with allylpentaerythritol.
4. (Previously Presented) The vaccine according to Claim 1, wherein the adjuvant comprises a copolymer of maleic anhydride and cross-linked ethylene.
5. (Previously Presented) The vaccine according to Claim 1, wherein the adjuvant is present in the vaccine in an amount of 0.01% to 2% w/v.
6. (Previously Presented) The vaccine according to Claim 5 wherein the adjuvant is present in a concentration of 0.06 to 1% w/v.
7. (Previously Presented) The vaccine according to Claim 1, wherein the naked DNA is a plasmid.
8. (Previously Presented) The vaccine according to Claim 1, wherein the antigenic polypeptide is an antigen of a pig, horse, dog, bovine, cat or avian pathogen.
9. (Previously Presented) The vaccine according to Claim 8 wherein the pathogen comprises:
 - Aujeszky's disease virus,
 - porcine influenza virus,
 - porcine reproductive and respiratory syndrome virus,
 - porcine parvovirosis virus,

- hog cholera virus,
- *Actinobacillus pleuropneumoniae*,
- equine rhinopneumonia virus,
- equine influenza virus,
- Cl. Tetani,
- Eastern encephalitis virus,
- Western encephalitis virus,
- Venezuelan encephalitis virus,
- *B. burgdorferi*,
- Canine Distemper virus,
- canine parvovirus,
- canine corona virus,
- canine herpesvirus,
- rabies virus,
- bovine herpesvirus types 1 or 5,
- bovine respiratory syncytial virus,
- bovine pestivirus,
- bovine parainfluenza virus type 3,
- feline leukaemia virus,
- feline panleukopaenia virus,
- feline infectious paritonitis virus,
- feline herpesvirus,
- feline calicivirus virus,
- feline immunodeficiency virus,
- Marek's disease virus,
- Newcastle disease virus,
- Gumboro disease virus,
- avian infectious bronchitis virus,
- avian infectious anaemia virus,
- infectious laryngotracheitis virus,

- avian leukosis virus,
- avian pneumovirus, or
- avian influenza.

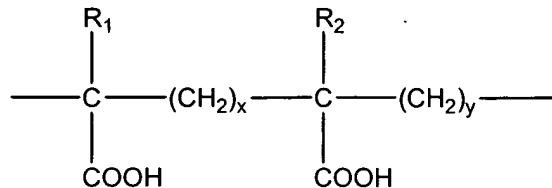
10. (Previously Presented) A method of enhancing efficacy of a DNA vaccine which comprises a naked DNA containing and expressing *in vivo* a heterologous polynucleotide by adding to the DNA vaccine an adjuvant which is a polymer of acrylic or methacrylic acid or a copolymers of maleic anhydride and alkenyl.

11. (Previously Presented) The DNA vaccine of claim 1, wherein the polynucleotide encodes an immunogen of a pathogenic agent.

12. (Original) The vaccine of claim 4, wherein the ethylene is cross-linked with divinyl ether.

13. (Original) The vaccine of claim 6, wherein the adjuvant compound has a concentration of 0.06 to 1% w/v.

14. (Previously Presented) The vaccine of claim 1, wherein the adjuvant is a carbomer or copolymer of the following formula:



wherein R₁ and R₂, are identical or different, and are H or CH₃,
x is 0 or 1, and y is 1 or 2, and x + y = 2.

15. (Previously Presented) The vaccine according to Claim 8, wherein the pathogen comprises equine rhinopneumonia virus or equine influenza virus.

16. (Previously Presented) The vaccine of claim 15 wherein the pathogen comprises equine rhinopneumonia virus.

17. (Previously Presented) The vaccine of claim 15 wherein the pathogen comprises equine influenza virus.

18. (Previously Presented) The vaccine of claim 8 wherein the pathogen comprises equine rhinopneumonia virus, equine influenza virus, Cl. Tetani, Eastern encephalitis virus, Western encephalitis virus, Venezuelan encephalitis virus, B. burgdorferi, or rabies virus.
19. (New) The vaccine of claim 1, wherein the naked DNA is in the circular plasmid form, wherein the plasmid additionally comprises an origin of replication, a promoter, and a transcription termination sequence.